

ABSTRACT OF DISCLOSURE

A method of displacing a tessellated surface, based on features of a displacement map, by analyzing a model to determine the level of detail in the model. Where the level of detail is high the number of polygons, typically triangles, used to represent the high detail area is increased through the use of "sub-triangles". The positions of the sub-triangles are also strategically located and constrained to better represent the high detail area, particularly any edges in the area. The level of detail can be determined using a displacement map for the surface. The positions of the triangles can be located by determining feature points (or sub-triangle vertices) in the areas of detail where the feature points can be moved toward the areas of high rate of change and additional feature points can be added. The feature points can be connected to form the sub-triangles with an emphasis or constraint on connecting points along an edge or border.

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